

a  
What is claimed is  
~~claims~~

1. A method in a communication system, said system comprising a controller and a first station for communication with a second station with variable transmission power over a radio connection, wherein the controller provides the first station with a target for a transmission parameter of the radio connection and the first station adjusts the transmission power of the second station on basis of the target, comprising:
- monitoring for a predefined condition;
- upon occurrence of the predefined condition, preventing use of a target for the transmission parameter exceeding a limit value for the target for the transmission parameter.
2. A method according to claim 1, wherein use of a target for the transmission parameter exceeding the limit value is prevented at the first station.
3. A method according to claim 1 or 2, wherein use of a target for the transmission parameter exceeding the limit value is prevented at the controller.
4. A method according to any of the preceding claims, wherein the limit value equals with the target for the transmission parameter in use at the moment of detecting the predefined condition.
5. A method according to claim 4, wherein the target for the transmission parameter is held at the limit value until the condition is over.

- Sub 92
6. A method according to any of the preceding claims, wherein the predefined condition comprises a temporary power limitation situation at the first station.
- 5 7. A method according to any of the preceding claims, wherein the predefined condition comprises an overload situation at the first station.
- Sub 93
8. A method according to any of the preceding claims, wherein the predefined condition comprises a failure in the communication system.
- 10 9. A method according to any of the preceding claims, wherein the monitoring of the occurrence of the predefined condition is based on determination of the interference power of the radio connection.
- 15 10. A method in according to any of the preceding claims, wherein the target for the transmission parameter comprises connection quality target.
- 20 11. A method according to any of claims 1 to 9, wherein the target for the transmission parameter comprises signalling energy/noise target.
- 25 12. A method according to any of claims 1 to 9, wherein the target for the transmission parameter comprises a target transmission power level of the transmission from the second station.
- 30 13. A method according to any of the preceding claims, wherein the step of preventing the target for the transmission parameter to exceed the limit value comprises

*Sub 93*  
ignoring power control commands at the first station until the predefined condition is over.

14. A method according to any of the preceding claims,  
5 wherein the step of preventing of the target for the transmission parameter to exceed the predefined value comprises preventing a generation of new power control commands at the controller until the predefined condition is over.

10

15. A method according to any of the preceding claims, wherein the controller controls the transmission powers between the first station and the second station by means of outer loop power control.

15

16. A method in accordance with any of the preceding claims, further comprising steps of:

receiving the target for the transmission parameter from the controller at the first station;

20

creating a further target for the transmission parameter at the first station for use in the transmission power adjustment, wherein the further target corresponds the target received from the controller until the predefined condition is detected whereafter the further target is prevented to  
25 exceed the limit value for the target and the target received from the controller is ignored.

17. A method in accordance with any of the preceding claims, further comprising steps of:

30

detecting a difference between the value of the target for the transmission parameter provided by the controller and the value of the target for the transmission parameter used

*Sub 93*

for power control by the first station after the predefined condition is over; and

reducing the difference between the said two target values.

5

18. A method according to claim 17, wherein reducing of the difference is based on history information of the target used for the power control prior the detection of the condition.

10 19. A method according to claim 17, wherein the step of reducing the difference comprises changing the value of the target provided by the controller to equal values of the target used by the first station for controlling the transmission power at the moment the condition is detected to  
15 be over.

*Sub 94*

20. A method according to any of claims 17 to 19, wherein the difference between the said two target values is reduced gradually.

20

21. A method according to claim 20, wherein the gradual reducing of the difference comprises steps of;

ignoring a request from the controller to reduce the transmission power until the difference between the target  
25 values used by the first station and provided by the controller is below a predefined level; and

subtracting a predefined amount from the difference as response to said request.

30 22. A method according to claim 21, wherein the predefined amount corresponds the requested decrease of the transmission power.

Sub 95

23. A method according to any of claim 20 or 21, wherein the gradual reducing of the difference comprises requesting a decrease of the transmission power by an amount that is greater than the amount of decrease requested in a normal mode of operation until the difference between the target values used by the first station and provided by the controller is below a predefined level.
24. A method according to any of the preceding claims, wherein the transmission power control is based on use of relative power control requests.
25. A method according to any of the preceding claims, wherein the communication system comprises a further station similar to the first station and the controller controls the transmission power of the second station by providing both the first and the further station with targets for the transmission parameter.
26. A method according to any of the preceding claims, wherein connections between the first station and other stations are adjusted in a priority order.
27. A method according to any of the preceding claims, wherein the controller comprises a radio network controller of a cellular communication system, the first station comprises a base station of the cellular communication system and the second station comprises a mobile station, and wherein the transmission power to be adjusted comprises transmission power from at least one mobile station towards at least one base station.
28. A communication system, comprising:

a controller arranged to control transmission power of stations;

a first station and a second station capable of providing a communication path therebetween, wherein the  
5 controller is arranged to provide the first station with a target for use in control of the transmission power of the second station;

monitoring means for monitoring for a predefined condition; and

10 means for preventing use of a target for the transmission parameter exceeding a limit value for the target for the transmission parameter upon occurrence of the predefined condition.

15 29. A communication system according to claim 28, further comprising at the first station a first target functionality for receiving the target from the controller and a further target functionality for generating a further target for the transmission parameter, wherein the arrangement is such that  
20 the further target is used for the power control of the second station and corresponds the target provided by the controller unless the predefined condition is detected whereafter the further target is set such that the limit value for the target for the transmission parameter is not  
25 exceeded.

30. A communication system according to claim 29, further comprising detecting means for detecting a difference between the target and the further target and recovery means for  
30 reducing the difference after the predefined condition is over.

31. A communication system according to claim 30, wherein the recovery means are arranged to reduce the difference gradually.

*Sub 96*  
5 32. A communication system according to any of claims 28 to 31, wherein the controller comprises a radio network controller of a cellular communication system, the first station comprises a base station of the cellular communication system and the second station comprises a  
10 mobile station, and wherein the transmission power to be adjusted comprises transmission power from at least one mobile station towards at least one base station.

15 33. A station of a communication system, said station controlling transmission power of a further station transmitting towards the station, wherein the station is arranged to:

receive a target for a transmission parameter provided by a controller of the communications system for use in the  
20 control of transmission power of the further station;

monitor for a predefined condition; and

upon occurrence of the predefined condition, to prevent use of targets for the transmission parameter exceeding a limit value for the target for the transmission parameter.

25

34. A station according to claim 33, further comprising a first target functionality for receiving the target for the transmission parameter provided by the controller and a further target functionality for generating a further target  
30 for the transmission parameter, wherein the arrangement is such that the further target is used for the power control of the further station and corresponds the target received from the controller unless the predefined condition is detected

whereafter the further target is set by the further target functionality such that the limit value for the target is not exceeded.

- 5 35. A station according to claim 34, further comprising detecting means for detecting a difference between the target and the further target and recovery means for reducing the difference after the predefined condition is over.
- 10 36. A station according to claim 35, wherein the recovery means are arranged to reduce the difference gradually.